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Clinical case report: psychosocial issues in adolescent bariatric surgery

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During the past several decades, the prevalence of obesity among children and adolescents has steadily increased [1]. Approximately 4% of American children and adolescents are extremely obese, defined as having a body mass index (BMI) 99th percentile for their age. Obese children and adolescents are likely to become obese adults and, as a result, be at risk of premature morbidity and mortality [2,3,4].

Although dietary, behavioral, and pharmacologic interventions might help some overweight and obese adolescents, they are most likely of little help for those with extreme obesity. For this group, more aggressive intervention is needed, such as bariatric surgery, that produces a greater and more sustainable weight loss. Studies examining bariatric surgery performed on adolescents have shown dramatically positive short-term results in terms of weight loss, the resolution of co-morbidities, and increased quality of life. The complications have generally been few [5–7]. However, more research is needed on the long-term outcomes after surgery, both medical and behavioral.

In general, adolescents presenting for bariatric surgery must meet the same general BMI and co-morbidity criteria for surgery as adults [8,9]. Additionally, the adolescent must have attained or nearly attained physical maturity and have a history of organized attempts at weight management without success. Also, adolescent patients should demonstrate reasonable decision-making abilities and be willing to commit to the comprehensive medical and psychological assessment process before surgery. During the psychological evaluation, consideration of the family support system is of specific concern. A certain level of maturity and family support is required for the adolescent to be able to adhere to the rigorous dietary and behavioral changes required after bariatric surgery.

The following case illustrates some unique and challenging psychosocial issues in an adolescent who presented for bariatric surgery.

Case report

The patient was a 16-year-old girl of Puerto Rican descent who presented for bariatric surgery to a large comprehensive bariatric surgery program in an academic medical center early in April 2007. Her weight was 325 lb, and her BMI was 64 kg/m². At her initial evaluation with the bariatric surgery program, she had the following co-morbidities:

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hypertension, asthma, pseudotumor cerebri, severe scoliosis, obstructive sleep apnea (requiring bi-level positive airway pressure treatment), narcolepsy, previous gallstone disease (treated by laparoscopic cholecystectomy), ophthalmic convergence excess, and gastroesophageal reflux disease. She also had menstrual irregularities and various food allergies.

The patient had been born and raised in Puerto Rico. She had grown up in what can best be described as difficult conditions. Her parents both had had substance abuse problems and reportedly belonged to a satanic cult. Her father left the family in 2000 and her mother had hypertension, diabetes type 2, and obesity. She was also diagnosed with schizophrenia and, in 2005, was considered legally incompetent to care for the patient or her siblings. Soon after, the patient moved to the United States to live with her aunt, who became her legal guardian and has since adopted the patient.

The patient reported that her excessive weight gain started at the age of 6. Although her mother had been extremely obese, the patient also reported poor dietary habits and a general lack of physical activity as a young girl. When she arrived in the United States, she indicated that she had frequently consumed large-portion sizes of calorically dense foods, such as ice cream, candy, cookies, and fast food. She would also binge eat and engage in purging behaviors several times weekly. In 2006, her aunt had her treated for bulimia at an intensive day treatment program with good results. Later in 2006, she was in an inpatient weight management program for approximately 2 months that resulted in a 15-lb weight loss. Since then, she reported that she had also seen a nutritionist on an outpatient basis with little effect on her weight. At the time she presented for surgery, she reported typically eating 2–3 meals, as well as several snacks, each day. She denied any binge eating or purging since 2006.

The patient initially presented for surgery while finishing her sophomore year of high school. She reported receiving B's and C's on her last report card. Since being in the United States, she had also been engaged in mental health treatment, not only for her bulimia, but also for depression, post-traumatic stress disorder (related to her childhood abuse and neglect), and generalized anxiety disorder. Her outpatient mental health professional reported that the patient was making good progress in her treatment.

After her initial evaluation by the consultants with the bariatric surgery program in April 2007, the recommendation from the team was to continue the mental health treatment and remain psychiatrically stable for a period of 2–3 months. It also was recommended that she engage in some additional nutritional counseling with the dietitians from the bariatric surgery program to teach the patient more about the postoperative diet requirements.

The patient returned for another evaluation 3 months later in July 2007. She had lost approximately 4 lb with help from a dietitian, had initiated a fitness program, and had continued her psychotherapeutic treatment. Her outpatient therapist stated that she believed the patient to be psychiatrically stable and had made good progress in managing her mood and anxiety levels. At that time, she was deemed an appropriate candidate for bariatric surgery.

The patient underwent laparoscopic gastric bypass with Roux-en-Y anastomosis in August 2007. At surgery, she weighed 302 lb and had a BMI of 59 kg/m². The surgery was performed without complications.

During the first postoperative year, the patient struggled with the transition back to a regular diet of solid foods. At several of her postoperative visits with the surgeon and program dietitian, she reported stomach pain, dizziness, sweating, and shaking soon after a meal. She

also reported several episodes of diarrhea each week. These episodes were attributed to her continued reliance on high-sugar and high-fat foods. It took close to 1 year for the patient to be able to eat solid foods without these untoward gastrointestinal events.

Approximately 13 months after surgery, the patient was hospitalized for approximately 5 weeks secondary to a return of her eating disorder symptoms. The patient's aunt reported that the patient was starving herself and sometimes purging in an effort to expedite the weight loss after the surgery. After the hospitalization period, the patient was doing better and maintained healthy eating habits, which allowed for slow and steady weight loss. She also had undergone a sleep test, which revealed no sleep-disordered breathing and, hence, no need for additional bi-level positive airway pressure therapy. However, she continued to use this therapy to treat the headaches she experienced in the mornings. Additionally, the patient had insomnia. She was scared of the nightmares she was having after the trauma she had experienced while living with her biologic parents and also feared that she might choke or die in her sleep. The patient was referred to cognitive behavior therapy to help her manage her sleeping problems.

The patient was last seen for follow-up with the bariatric surgery program at 18 months postoperatively. Her weight was 219 lb (BMI 43 kg/m²), representing a weight loss of approximately one third of her initial body weight. She reported feeling "Great!" and added, "You guys changed my life." She was making healthy food choices, eating every 3–4 hours, and could tolerate a regular diet without nausea or vomiting. Her blood pressure was normal without antihypertensive medication. She reported a reduction in her headaches (which were believed to have been precipitated by her pseudotumor cerebri) and had undergone successful back surgery to treat her scoliosis. She continued to be engaged in outpatient psychotherapy and attended a support group for bariatric surgery patients on a regular basis.

Discussion

The presented case illustrates some of the challenges in determining an adolescent's appropriateness for bariatric surgery. From a physical perspective, the patient was clearly an appropriate surgery candidate—not only was her BMI well above 40 kg/m², but she also had several significant obesity-related co-morbidities. Without surgery, her weight would have likely continued to increase and her health would have deteriorated as she grew older. Instead, surgery resulted in resolution of the patient's hypertension and obstructive sleep apnea and improvement of her headaches and also allowed her to undergo back surgery for her scoliosis.

However, the team had a number of concerns about her psychosocial appropriateness for surgery. The patient had various, severe psychiatric conditions (bulimia, post-traumatic stress disorder, and generalized anxiety disorder) that could have interfered with her ability to follow the dietary and behavioral requirements after surgery. Despite the overall success of bariatric surgery for adults and adolescents, approximately 20–30% of patients either fail to reach the typical postoperative weight loss or begin to regain large amounts of weight within the first few postoperative years [10]. Many of these suboptimal results can be attributed to a poor adherence to the postoperative diet or to a return of maladaptive eating behaviors [11].

Even with delaying surgery for additional psychological and dietary counseling to prepare her for surgery, she struggled with these issues postoperatively, as evidenced by her delayed transition to solid foods and frequent vomiting in the first postoperative year. These issues also likely contributed to the relapse of her eating disorder early in the second postoperative year, which was successfully treated with inpatient hospitalization.

Since then, the patient's eating habits and psychosocial status appear to have stabilized. Although she can be considered to have had a successful outcome at this point, she will likely continue to need ongoing psychological support to help her manage her traumatic childhood as she transitions to adulthood. Nevertheless, her case underscores some valuable lessons about the need for a multidisciplinary team approach to adolescent bariatric surgery—both with respect to the preoperative evaluation process and with regard to postoperative care.

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References

1. Ogden CL, Carroll MD, Curtin LR, McDowell MA, Tabak CJ, Flegal KM. Prevalence of overweight and obesity in the United States, 1999–2004. *JAMA*. 2006; 295:1549–1555. [PubMed: 16595758]
2. Freedman DS, Mei Z, Srinivasan SR, Berenson GS, Dietz WH. Cardiovascular risk factors and excess adiposity among overweight children and adolescents: the Bogalusa Heart Study. *J Pediatr*. 2007; 150:3–5. [PubMed: 17188602]
3. van Dam RM, Willett WC, Manson JE, Hu FB. The relationship between overweight in adolescence and premature death in women. *Ann Intern Med*. 2006; 145:91–97. [PubMed: 16847291]
4. Wang LY, Chyen D, Lee S, Lowry R. The association between body mass index in adolescence and obesity in adulthood. *J Adolesc Health*. 2008; 42:512–518. [PubMed: 18407047]
5. Stanford A, Glascock JM, Eid GM, et al. Laparoscopic Roux-en-Y gastric bypass in morbidly obese adolescents. *J Pediatr Surg*. 2003; 38:430–433. [PubMed: 12632362]
6. Strauss RS, Bradley LJ, Brolin RE. Gastric bypass surgery in adolescents with morbid obesity. *J Pediatr*. 2001; 138:499–504. [PubMed: 11295712]
7. Inge TH, Garcia V, Daniels S, et al. A multidisciplinary approach to the adolescent bariatric surgery patient. *J Pediatr Surg*. 2004; 39:442–447. [PubMed: 15017567]
8. Inge TH, Krebs NF, Garcia VF, et al. Bariatric surgery for severely overweight adolescents: concerns and recommendations. *Pediatrics*. 2004; 200:593–604.
9. Pratt JS, Lenders CM, Dionne EA, et al. Best practice updates for pediatric/adolescent weight loss surgery. *Obesity*. 2009; 17:901–910. [PubMed: 19396070]
10. Sjostrom L, Lindroos AK, Peltonen M, et al. Lifestyle, diabetes, and cardiovascular risk factors 10 years after bariatric surgery. *N Engl J Med*. 2004; 351:2683–2693. [PubMed: 15616203]
11. Sarwer DB, Wadden TA, Fabricatore AN. Psychosocial and behavioral aspects of bariatric surgery. *Obes Res*. 2005; 13:639–648. [PubMed: 15897471]